



Mathematical Cognition and Big Data Analytics: Are Sarawak Teachers Ready?

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ABSTRACT

To remain relevant in Sarawak's Digital Economy Agenda (2018-2020), Mathematics teachers in Sarawak need to align their content with current expectations for the future workforce in the state. Big data analytics is a crucial driver to the Digital Economy Agenda, as it is stipulated to intensify economic growth in Sarawak. To be fluent in big data analytics, one has to master mathematical cognition. This study investigates the readiness of Mathematics teachers in urban and rural Sarawak, to highlight mathematical cognition in their teaching, to prepare their students for the requirements of big data analytics for the digital economy in Sarawak. The participants are 38 teachers who are currently teaching mathematics in primary and secondary schools from urban and rural areas across Sarawak. Data was collected using an online survey that was distributed via social media. It was found that there was no difference in the choices of teaching strategies used by mathematics teachers in Sarawak despite multiple demographic factors such as gender of their students, types of school, districts and years of teaching experience. Teachers were fully aware of the digital economy agenda, and they were conscious of the current state of their students who were deemed still unprepared to take part in the Sarawak Digital Economy Agenda.

Keywords: Mathematics; Mathematical cognition; Big data analytics; Digital economy

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INTRODUCTION

In 2017, it was announced that Sarawak would undergo a statewide initiative known

as Sarawak Digital Economy Strategy (2018-2020). Approaching the digital economy is one of the first steps to reduce and hopefully end the dependence on natural resources for economic growth in Sarawak. Through information and communication technologies (ICT), a wide range of economic activities, professional interactions and commercial transactions occurs, thus generating a digital economy. Shifting the focus will create an alternative for various business opportunities through digital marketing. Differences

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